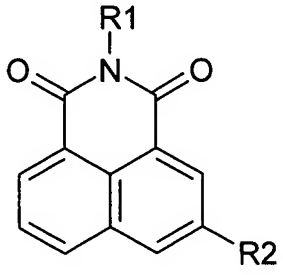
Amendments to the Claims

Please cancel Claims 28-29. Please amend Claims 1, 12, and 20. Please add new Claims 30-36. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently amended) A compound represented by the following structural formula:



(I).

wherein:

R1 is $-(CH_2)_nN^+HR3R4X^-$ and R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$, sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5; or R1 is $-(CH_2)_nN^+HR3R4X^-$ or $-(CH_2)_nNR3R4$ ~~when~~ and R2 is $-N^+HR6R7X^-$

~~R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$, sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5;~~

R3 and R4 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

each R5 is independently -H or a C1-C4 alkyl group;

R6 and R7 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

n is an integer from 0-3; and

X^- is the carboxylate anion of an organic carboxylic acid compound.

2. (Original) The compound of Claim 1 wherein:

n is 2;

R2 is $-NO_2$, $-NH_2$ or $-NH_3^+X^-$; and

R3 and R4 are the same and are -H, $-CH_3$ or $-CH_2CH_3$.

3. (Original) The compound of Claim 2 wherein R3 and R4 are $-CH_3$.

4. (Original) The compound of Claim 1 wherein X^- is the carboxylate anion of a C1-C4 aliphatic monocarboxylic acid, hydroxy C2-C6 aliphatic monocarboxylic acid, keto C2-C6 aliphatic monocarboxylic acid, amino C2-C6 aliphatic monocarboxylic acid, C2-C8 aliphatic dicarboxylic acid, hydroxy C3-C8 aliphatic dicarboxylic acid, keto C3-C8 aliphatic dicarboxylic acid, amino C3-C8 aliphatic dicarboxylic acid, C3-C8 aliphatic tricarboxylic acid, hydroxy C4-C10 tricarboxylic acid, keto C4-C10 tricarboxylic acid, amino C4-C10 tricarboxylic acid, an aryl carboxylic acid, C1-C5 heteroalkyl monocarboxylic acid or C3-C8 heteroalkyl dicarboxylic acid.

5. (Original) The compound of Claim 1 wherein X^- is the carboxylate anion of a hydroxy C2-C6 aliphatic monocarboxylic acid, a keto C2-C6 aliphatic monocarboxylic acid, a C2-C8 aliphatic dicarboxylic acid, a hydroxy C3-C8 aliphatic dicarboxylic acid, a keto C3-C8 aliphatic dicarboxylic acid, a C3-C8 tricarboxylic acid, a hydroxy C4-C8 tricarboxylic acid, or a keto C4-C8 tricarboxylic acid and the compound is amonafide.

6. (Original) The compound of Claim 3 wherein X^- is the carboxylate anion of a C1-C4 aliphatic monocarboxylic acid, hydroxy C2-C6 aliphatic monocarboxylic acid, keto C2-C6 aliphatic monocarboxylic acid, amino C2-C6 aliphatic monocarboxylic acid, C2-C8 aliphatic dicarboxylic acid, hydroxy C3-C8 aliphatic dicarboxylic acid, keto C3-C8 aliphatic dicarboxylic acid, amino C3-C8 aliphatic dicarboxylic acid, C3-C8 aliphatic tricarboxylic acid, hydroxy C4-C10 tricarboxylic acid, keto C4-C10 tricarboxylic acid, amino C4-C10 tricarboxylic acid, an aryl carboxylic acid, C1-C5 heteroalkyl monocarboxylic acid or C3-C8 heteroalkyl dicarboxylic acid.

7. (Original) The compound of Claim 1 wherein X^- is the carboxylate anion of formic acid, acetic acid, propionic acid, 2-pentenoic acid, 3-pentenoic acid, 3-methyl-2-butenoic acid, 4-

methyl-3-pentenoic acid lactic acid, glycolic, mandelic acid, oxaloacetic acid, alpha-ketoglutaric acid, pyruvic acid, aspartic acid, glutamic acid, malonic acid, succinic acid, adipic acid, maleic acid, fumaric acid, malic acid, tartaric acid, citric acid or gluconic acid.

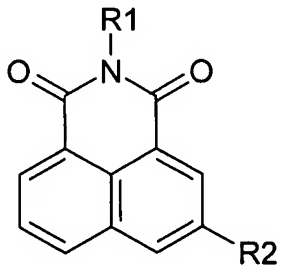
8. (Original) The compound of Claim 3 wherein X^- is the carboxylate anion of formic acid, acetic acid, propionic acid, 2-pentenoic acid, 3-pentenoic acid, 3-methyl-2-butenoic acid, 4-methyl-3-pentenoic acid, lactic acid, glycolic, mandelic acid, oxaloacetic acid, alpha-ketoglutaric acid, pyruvic acid, aspartic acid, glutamic acid, malonic acid, succinic acid, adipic acid, maleic acid, fumaric acid, malic acid, tartaric acid, citric acid or gluconic acid.

9. (Original) The compound of Claim 1 wherein the compound is amonafide tartrate, amonafide adipate, amonafide aspartate, amonafide citrate, amonafide fumarate, amonafide glycolate, amonafide maleate, amonafide malonate, amonafide 2-oxoglutarate, amonafide pyruvate, amonafide salicylate, amonafide hemi-succinate or amonafide succinate.

10. (Original) The compound of Claim 1 wherein X^- is malate or glycolate.

11. (Original) The compound of Claim 1 wherein the compound is monovalent.

12. (Currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier or diluent and a compound represented by the following structural formula:



(I).

wherein:

R1 is $-(CH_2)_nN^+HR3R4X^-$ and R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$, sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5; or R1 is $-(CH_2)_nN^+HR3R4X^-$ or $-(CH_2)_nNR3R4$ ~~when~~ and R2 is $-N^+HR6R7X^-$

~~R2 is -OR5, halogen, -NR6R7, $N^+HR6R7X^-$ sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5;~~

R3 and R4 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

each R5 is independently -H or a C1-C4 alkyl group;

R6 and R7 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

n is an integer from 0-3; and

X^- is the carboxylate anion of an organic carboxylic acid compound.

13. (Original) The pharmaceutical composition of Claim 12 wherein:

n is 2;

R2 is $-NO_2$, $-NH_2$ or $-NH_3^+X^-$; and

R3 and R4 are the same and are -H, $-CH_3$ or $-CH_2CH_3$.

14. (Original) The pharmaceutical composition of Claim 13 wherein R3 and R4 are $-CH_3$.

15. (Original) The pharmaceutical composition of Claim 12 wherein X^- is the carboxylate anion of a C1-C4 aliphatic monocarboxylic acid, hydroxy C2-C6 aliphatic monocarboxylic acid, keto C2-C6 aliphatic monocarboxylic acid, amino C2-C6 aliphatic monocarboxylic acid, C2-C8 aliphatic dicarboxylic acid, hydroxy C3-C8 aliphatic dicarboxylic acid, keto C3-C8 aliphatic dicarboxylic acid, amino C3-C8 aliphatic dicarboxylic acid, C3-C8 aliphatic tricarboxylic acid, hydroxy C4-C10 tricarboxylic acid, keto C4-C10 tricarboxylic acid, amino C4-C10 tricarboxylic acid, an aryl carboxylic acid, C1-C5 heteroalkyl monocarboxylic acid or C3-C8 heteroalkyl dicarboxylic acid.

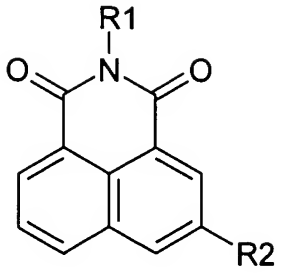
16. (Original) The pharmaceutical composition of Claim 14 wherein X^- is the carboxylate anion of a C1-C4 aliphatic monocarboxylic acid, hydroxy C2-C6 aliphatic monocarboxylic acid, keto C2-C6 aliphatic monocarboxylic acid, amino C2-C6 aliphatic monocarboxylic acid, C2-C8 aliphatic dicarboxylic acid, hydroxy C3-C8 aliphatic dicarboxylic acid, keto C3-C8 aliphatic dicarboxylic acid, amino C3-C8 aliphatic dicarboxylic acid, C3-C8 aliphatic tricarboxylic acid, hydroxy C4-C10 tricarboxylic acid, keto C4-C10 tricarboxylic acid, amino C4-C10 tricarboxylic acid, an aryl carboxylic acid, C1-C5 heteroalkyl monocarboxylic acid or C3-C8 heteroalkyl dicarboxylic acid.

17. (Original) The pharmaceutical composition of Claim 12 wherein X^- is the carboxylate anion of formic acid, acetic acid, propionic acid, 2-pentenoic acid, 3-pentenoic acid, 3-methyl-2-butenoic acid, 4-methyl-3-pentenoic acid lactic acid, glycolic, mandelic acid, oxaloacetic acid, alpha-ketoglutaric acid, pyruvic acid, aspartic acid, glutamic acid, malonic acid, succinic acid, adipic acid, maleic acid, fumaric acid, malic acid, tartaric acid, citric acid or gluconic acid.

18. (Original) The pharmaceutical composition of Claim 14 wherein X^- is the carboxylate anion of formic acid, acetic acid, propionic acid, 2-pentenoic acid, 3-pentenoic acid, 3-methyl-2-butenoic acid, 4-methyl-3-pentenoic acid, lactic acid, glycolic, mandelic acid, oxaloacetic acid, alpha-ketoglutaric acid, pyruvic acid, aspartic acid, glutamic acid, malonic acid, succinic acid, adipic acid, maleic acid, fumaric acid, malic acid, tartaric acid, citric acid or gluconic acid.

19. (Original) The pharmaceutical composition of Claim 12 wherein X^- is malate or glycolate.

20. (Currently amended) A method of treating a subject with cancer <u>selected from the group consisting of breast cancer, colon cancer, lung cancer, prostate cancer and leukemia,</u> comprising the step of administering to the subject an effective amount of a compound represented by the following structural formula:



(I).

wherein:

R1 is $-(CH_2)_nN^+HR3R4X^-$ and R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$, sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5; or R1 is $-(CH_2)_nN^+HR3R4X^-$ or $-(CH_2)_nNR3R4$ ~~when~~ and R2 is $-N^+HR6R7X^-$

~~R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$ sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5;~~

R3 and R4 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

each R5 is independently -H or a C1-C4 alkyl group;

R6 and R7 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

n is an integer from 0-3; and

X^- is the carboxylate anion of an organic carboxylic acid compound.

21. (Original) The method of Claim 20 wherein:

n is 2;

R2 is $-NO_2$, $-NH_2$ or $-NH_3^+X^-$; and

R3 and R4 are the same and are -H, $-CH_3$ or $-CH_2CH_3$.

22. (Original) The method of Claim 21 wherein R3 and R4 are $-CH_3$.

23. (Original) The method of Claim 20 wherein X^- is the carboxylate anion of a C1-C4 aliphatic monocarboxylic acid, hydroxy C2-C6 aliphatic monocarboxylic acid, keto C2-

C6 aliphatic monocarboxylic acid, amino C2-C6 aliphatic monocarboxylic acid, C2-C8 aliphatic dicarboxylic acid, hydroxy C3-C8 aliphatic dicarboxylic acid, keto C3-C8 aliphatic dicarboxylic acid, amino C3-C8 aliphatic dicarboxylic acid, C3-C8 aliphatic tricarboxylic acid, hydroxy C4-C10 tricarboxylic acid, keto C4-C10 tricarboxylic acid, amino C4-C10 tricarboxylic acid, an aryl carboxylic acid, C1-C5 heteroalkyl monocarboxylic acid or C3-C8 heteroalkyl dicarboxylic acid.

24. (Original) The method of Claim 22 wherein X^- is the carboxylate anion of a C1-C4 aliphatic monocarboxylic acid, hydroxy C2-C6 aliphatic monocarboxylic acid, keto C2-C6 aliphatic monocarboxylic acid, amino C2-C6 aliphatic monocarboxylic acid, C2-C8 aliphatic dicarboxylic acid, hydroxy C3-C8 aliphatic dicarboxylic acid, keto C3-C8 aliphatic dicarboxylic acid, amino C3-C8 aliphatic dicarboxylic acid, C3-C8 aliphatic tricarboxylic acid, hydroxy C4-C10 tricarboxylic acid, keto C4-C10 tricarboxylic acid, amino C4-C10 tricarboxylic acid, an aryl carboxylic acid, C1-C5 heteroalkyl monocarboxylic acid or C3-C8 heteroalkyl dicarboxylic acid.

25. (Original) The method of Claim 20 wherein X^- is the carboxylate anion of formic acid, acetic acid, propionic acid, 2-pentenoic acid, 3-pentenoic acid, 3-methyl-2-butenoic acid, 4-methyl-3-pentenoic acid lactic acid, glycolic, mandelic acid, oxaloacetic acid, alpha-ketoglutaric acid, pyruvic acid, aspartic acid, glutamic acid, malonic acid, succinic acid, adipic acid, maleic acid, fumaric acid, malic acid, tartaric acid, citric acid or gluconic acid.

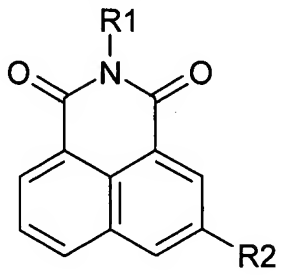
26. (Original) The method of Claim 22 wherein X^- is the carboxylate anion of formic acid, acetic acid, propionic acid, 2-pentenoic acid, 3-pentenoic acid, 3-methyl-2-butenoic acid, 4-methyl-3-pentenoic acid, lactic acid, glycolic, mandelic acid, oxaloacetic acid, alpha-ketoglutaric acid, pyruvic acid, aspartic acid, glutamic acid, malonic acid, succinic acid, adipic acid, maleic acid, fumaric acid, malic acid, tartaric acid, citric acid or gluconic acid.

27. (Original) The method of Claim 20 wherein X^- is malate or glycolate.

28. (Cancelled)

29. (Cancelled)

30. (New) A compound represented by the following structural formula:



(I).

wherein:

R1 is $-(CH_2)_nN^+HR3R4X^-$ and R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$, sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5; or R1 is $-(CH_2)_nN^+HR3R4X^-$ or $-(CH_2)_nNR3R4$ and R2 is $-N^+HR6R7X^-$

R3 and R4 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

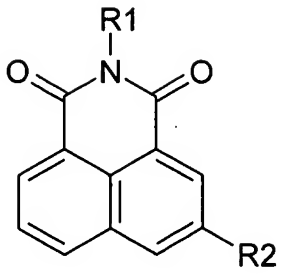
each R5 is independently -H or a C1-C4 alkyl group;

R6 and R7 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

n is an integer from 0-3; and

X^- is the carboxylate anion of a aliphatic C2-C6 di- or C3-C8 tri-carboxylic acid compound.

31. (New) A pharmaceutical composition comprising a pharmaceutically acceptable carrier or diluent and a compound represented by the following structural formula:



(I).

wherein:

R1 is $-(CH_2)_nN^+HR3R4X^-$ and R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$, sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5; or R1 is $-(CH_2)_nN^+HR3R4X^-$ or $-(CH_2)_nNR3R4$ and R2 is $-N^+HR6R7X^-$

R3 and R4 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

each R5 is independently -H or a C1-C4 alkyl group;

R6 and R7 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

n is an integer from 0-3; and

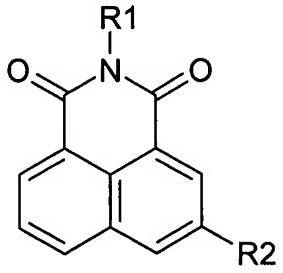
X^- is the carboxylate anion of a aliphatic C2-C6 di- or C3-C8 tri-carboxylic acid compound.

32. (New) The composition of Claim 31 wherein the compound is amonafide tartrate, amonafide adipate, amonafide aspartate, amonafide citrate, amonafide fumarate, amonafide glycolate, amonafide maleate, amonafide malonate, amonafide 2-oxoglutarate, amonafide pyruvate, amonafide salicylate, amonafide hemi-succinate or amonafide succinate.

33. (New) The composition of Claim 32 wherein the compound is amonafide malate.

34. (New) A method of treating a subject with cancer selected from the group consisting of breast cancer, colon cancer, lung cancer, prostate cancer and leukemia, comprising the

step of administering to the subject an effective amount of a compound represented by the following structural formula:



(I).

wherein:

R1 is $-(CH_2)_nN^+HR3R4X^-$ and R2 is -OR5, halogen, -NR6R7, $-N^+HR6R7X^-$, sulphonic acid, nitro, -NR5COOR5, -NR5COR5 or -OCOR5; or R1 is $-(CH_2)_nN^+HR3R4X^-$ or $-(CH_2)_nNR3R4$ and R2 is $-N^+HR6R7X^-$

R3 and R4 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

each R5 is independently -H or a C1-C4 alkyl group;

R6 and R7 are independently -H, C1-C4 alkyl group or, taken together with the nitrogen atom to which they are bonded, a non-aromatic nitrogen-containing heterocyclic group;

n is an integer from 0-3; and

X^- is the carboxylate anion of a aliphatic C2-C6 di- or C3-C8 tri-carboxylic acid compound.

35. (New) The method of Claim 31 wherein the compound is amonafide tartrate, amonafide adipate, amonafide aspartate, amonafide citrate, amonafide fumarate, amonafide glycolate, amonafide maleate, amonafide malonate, amonafide 2-oxoglutarate, amonafide pyruvate, amonafide salicylate, amonafide hemi-succinate or amonafide succinate.

36. (New) The method of Claim 35 wherein the compound is amonafide malate.

37. (New) A aliphatic C2-C6 di- or C3-C8 tri-carboxylic acid salt of amonafide.

38. (New) A pharmaceutical composition comprising a pharmaceutically acceptable carrier or diluent and a aliphatic C2-C6 di- or C3-C8 tri-carboxylic acid salt of amonafide.

39. (New) The method of Claim 34 wherein the compound is a aliphatic C2-C6 di- or C3-C8 tri-carboxylic acid salt of amonafide.